



*The Society of Cost Estimating and Analysis*

# ***SCEA CCEA Program and Exam Preparation***

**September 2009**

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Certification**



# ***Agenda***

- Market Imperatives
- Certification Objectives
- CCEA Program Components
  - Eligibility Requirements
  - Testable Topics
  - Cost Estimating Body of Knowledge (CEBoK)
- CCEA Examination
- Contact Information
- Questions & Answers

**To help you understand and succeed**



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# ***Market Environment/Imperative***

- Weapon Systems Acquisition Reform Act of 2009
  - Independent Dir of Cost Assessment & Program Evaluation
  - Nunn-McCurdy Breaches to get more scrutiny
    - “Reassessments” or “root cause analyses”
    - New milestone baselines for programs not terminated
  - Greater emphasis on cost and schedule objectives in AOAs
  - Heightened use of Earned Value Management
- Business shareholders demand accuracy and transparency in major capital investments
- Practitioners seek to improve and distinguish themselves among peers



# ***SCEA “Charter”***

- Unify the cost community
- Develop a common understanding of cost estimating techniques and methods
- Set standards and promote cost estimating and analysis within the federal government and private industry
- Uphold the ethical standards of conduct throughout the profession



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# ***Certification Program Objectives***

- Establish competency standards recognized by government and private industry alike
- Provide proficiency measures against which practitioners can be tested and certified
- Practitioners must:
  - Attain a minimum level of proficiency through training and real-world experience
  - Demonstrate competency through recognizable testing standards



# Train

<b>SCEA</b>	<b>CEBOK and Conferences</b>	<b>ISPA Handbook</b>
<b>GOVT</b>	<b>Handbooks, Guidance &amp; OJT</b>	<b>Handbooks</b>
<b>Academic</b>	<b>Courses and Seminars</b>	<b>Text Books and Publications</b>
<b>Commercial</b>	<b>Handbooks, Guidance &amp; Training</b>	<b>Training Courses</b>

# Attain

**Certified Cost Estimator/Analyst (CCEA)**

**Part I (PCEA)**  
**Professional Cost Estimator/Analyst**  
 Bachelors Degree and 2 years experience (or 5 yrs without degree)

**Part II**  
 Bachelors Degree and 5 years experience (or 8 yrs without degree)

**Foundational Knowledge**

**Practical Application**

**Advanced Analysis**

**Case Study**

**Optional Specialty Certification Exams**

**Parametrics** **Risk** **Software**

**Defense**

# Sustain

**Recertification Program**



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# ***Education and Experience Standards***

- Eligibility Standards

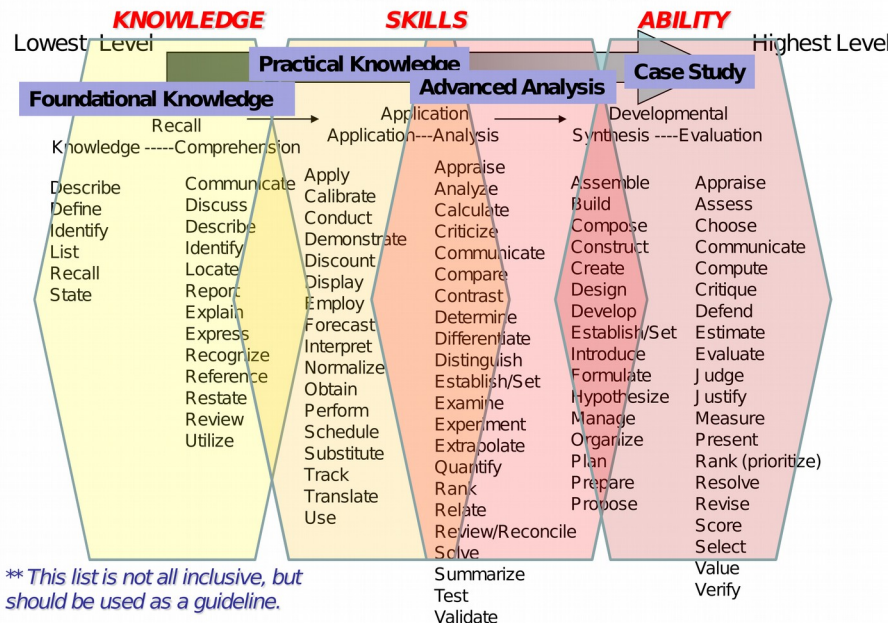
Designation/ Credential	Educational Requirement	Experience Requirement	Educational Exception
<b>PCEA</b>	<b>Bachelor's Degree in any field from an accredited college</b>	<b>2 years of cost experience</b>	<b>If individual does not have a Bachelor's Degree, then must demonstrate 5 years of cost experience.</b>
<b>CCEA</b>	<b>Bachelor's Degree in any field from an accredited college</b>	<b>5 years of cost experience</b>	<b>If individual does not have a Bachelor's Degree, then must demonstrate 8 years of cost experience.</b>

# Body of Knowledge Standards

## Testable Topics identified in Certification Handbook and SCEA Website

TOPIC	CCEA			
	Part I or PCEA		Part II	
	Foundational Knowledge	Practical Application	Advanced Analysis	Case Study
Applications of Cost Estimating	X			
Budgeting, Investment, and Planning	X			
Analysis of Alternatives (AoA)	X			
Economic Analysis	X			
Cost Benefits Analysis	X			
Business Case Analysis	X			

### Verbs for each level



**Knowledge, Skills, Ability progressively tested through multi-part examination**





# ***Training Resources***

- Cost Estimating Body of Knowledge (CEBoK) is a SCEA-endorsed training tool that:
  - Can be used as a comprehensive desk-side reference
  - Encompasses same topical areas that the CCEA examination covers
  - Is useful when preparing for CCEA examination
- SCEA/ISPA Joint National Training Workshop
- Local study groups and Chapter training programs
- SCEA website for alternative training resources

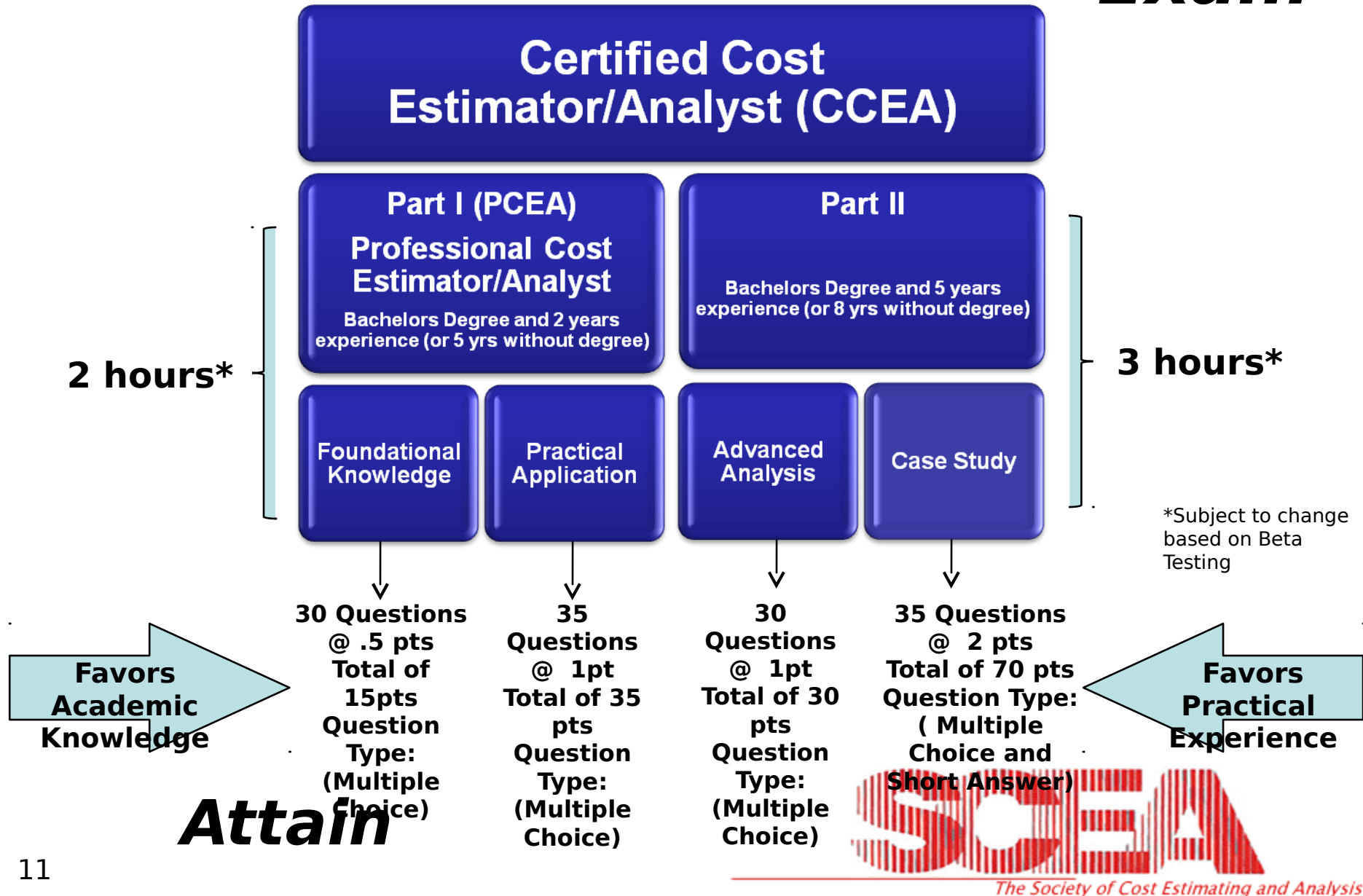
# ***Study and Training Advice***

- CCEA Exam is based on the Testable Topics List
- CEBoK is based on the Testable Topics List
  - Aside from the Testable Topics List, the CCEA and CEBoK were independently created. The CCEA Exam and CEBoK are aligned but not synchronized; therefore do not expect that questions found in CEBoK will always be on the exam.
- Use of other training tools is highly encouraged (e.g., DAU courses, commercial courses and products, textbooks, etc.)
- Others resources include: the SCEA Certification Program, and the CCEA Examination Preparation Handbook



• 130 question exam given in 5 hours\*  
• 4 sections divided into 2 parts

# Certification Exam



# Exam Question Distribution

		Number of Questions on Examination		
CEBoK Module # and Topic		Part I (PCEA)	Part II	Total
			0 to	
1	Cost Estimating Basics	3 to 8	6	6 to 12
			0 to	
2	Costing Techniques	3 to 8	6	6 to 12
			0 to	
3	Parametric Estimating	3 to 8	6	6 to 12
	Data Collection and		0 to	
4	Normalization	3 to 8	6	6 to 12
			0 to	
5	Index/Inflation	3 to 8	6	6 to 12
	Basic Data Analysis		0 to	
6	Principles	3 to 8	6	6 to 12
			0 to	
7	Learning Curve	3 to 8	6	6 to 12
			0 to	
8	Regression Analysis	3 to 8	6	6 to 12
			0 to	
9	Cost Risk Analysis	3 to 8	6	6 to 12
	Probability and		0 to	
10	Statistics	3 to 8	6	6 to 12
	Manufacturing Cost		0 to	
11	Estimating	3 to 8	6	6 to 12
	Software Cost		0 to	
12	Estimating	3 to 8	6	6 to 12

The exam question distribution will evenly cover each module throughout the exam.

Every exam version will have its own unique distribution.

Therefore, it will be important to study each module equally.



# ***Recertification Process***

- The CCEA designation has a five-year duration
  - Re-take the CCEA Examination
  - Re-certify through proficiency activities
- Accumulate Recertification Points through
  - Work experience
  - Cost community participation
  - Continued learning and/or knowledge sharing
- Automated Recertification Points process
- See SCEA Website for more information

# **FOUNDATIONAL KNOWLEDGE**

## **SAMPLE QUESTION #1**

QUESTION: Which of the following is **NOT** a purpose of the Work Breakdown Structure?

- A. To provide a lower level breakout of small tasks that are easy to identify, staff, schedule, and estimate
- B. To identify the organizational relationships and assign work responsibilities
- C. To reduce the possibility of overlap, duplication, or redundancy of tasks
- D. To provide a basis of comparison for the actual work completed versus the estimate
- E. To furnish a convenient hierarchical structure for the accumulation of resources estimates

ANSWER: B

SOLUTION: All of the provided responses support the purpose of the WBS except response B.

REFERENCE: Stewart, Rodney. Cost Estimating: Second Edition. New York: John Wiley & Sons, Inc., 1991, p 35.



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# **PRACTICAL APPLICATION**

## **SAMPLE QUESTION #1**

QUESTION: While collecting historical data to perform an estimate for a future aircraft, you discover that the ABC aircraft is similar to the proposed aircraft. You find that the ABC aircraft cost \$2.2 billion (2007\$) to develop, has an average recurring production cost of \$90 million (2007\$), weighs 30,000 lbs, and has a range of 2000 miles and maximum speed of 550 miles per hour. What major category of data is missing from this collection effort?

- A. Cost
- B. Technical
- C. Programmatic
- D. None of the above
- E. All of the above

ANSWER: C

*SOLUTION: Using the various terms addressed in Module 4 of CEBoK, programmatic is the best category for the missing data*

*REFERENCE: Module 4 of CEBoK*



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# ***ADVANCED ANALYSIS SAMPLE QUESTION #1***

QUESTION: Which of the following does not have the potential to impact the data collection process?

- A. New technologies
- B. Schedule
- C. Cost Reduction Initiatives
- D. Inflation
- E. Development of a new CER

*ANSWER: D*

*SOLUTION:* Inflation doesn't impact the method of collection

*REFERENCE:* Module 4 of CEBok





# ***Contact Information***

For questions pertaining to the Certification Program and the PCEA or CCEA exams, please refer to the SCEA website at:

<http://www.sceaonline.org/>

Or contact us directly:

SCEA/ISPA Joint Office  
527 Maple Avenue East,  
Suite 301,  
Vienna, VA 22180

Email: [scea@sceaonline.org](mailto:scea@sceaonline.org)

Phone: 703-938-5090

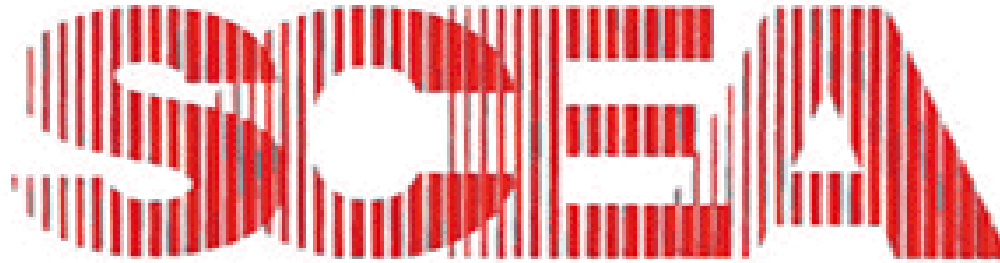
Fax: 703-938-5091

Office hours: 8:30am -5:00pm ET, Monday to Friday

***Train, Attain, Sustain***



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***...Certification Matters!***

***Any Questions?***

